

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference TS 0396 PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/08727	International filing date (day/month/year) 05/09/2000	(Earliest) Priority Date (day/month/year) 06/09/1999
Applicant SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

1



None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

EP 00/08727

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 F23D14/62 C01B3/38 B01F5/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F23D C01B B01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 98 30322 A (SHELL INT RESEARCH) 16 July 1998 (1998-07-16) the whole document ---	1,7,9
Y	US 4 390 346 A (CRAMER RUDOLPH E ET AL) 28 June 1983 (1983-06-28) column 3, line 54 - line 61; figure 1 ---	1,7,9
A	WO 98 49096 A (EXXON RESEARCH ENGINEERING CO) 5 November 1998 (1998-11-05) page 23, paragraph 1; figures 4,5 ---	1,3,7-11
A	EP 0 896 192 A (DUNGS KARL GMBH & CO) 10 February 1999 (1999-02-10) the whole document --- -/--	1

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

13 November 2000

Date of mailing of the international search report

20/11/2000

Name and mailing address of the ISA

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Authorized officer

Coli, E

INTERNATIONAL SEARCH REPORT

International Application No

EP 00/08727

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>FR 2 728 892 A (BERNARD THIERRY) 5 July 1996 (1996-07-05) the whole document -----</p>	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

EP 00/08727

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9830322	A	16-07-1998	AU 720655 B	08-06-2000
			AU 6093598 A	03-08-1998
			EP 0951345 A	27-10-1999
			NO 993339 A	02-09-1999
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US 4390346	A	28-06-1983	NL 7903708 A	13-11-1980
			AT 2301 T	15-02-1983
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			AU 7146398 A	24-11-1998
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EP 0896192	A	10-02-1999	DE 19733767 A	11-02-1999
FR 2728892	A	05-07-1996	NONE	

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 98/08074

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C01B3/38 B01J8/02 B01J4/00 B01F5/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C01B B01J F23D B01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 303 439 A (DAVY MCKEE CORP) 15 February 1989 see the whole document ---	1-6, 21
A	US 4 722 181 A (YU TAI I) 2 February 1988 see column 1, line 46 - line 68 see column 2, line 34 - column 3, line 7 see figure ---	1, 7, 8, 13, 14, 21-23
A	US 5 292 246 A (GATEAU PAUL ET AL) 8 March 1994 cited in the application see the whole document ---	1, 21
-/--		

☒ Further documents are listed in the continuation of box C.

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- "A" document defining the general state of the art which is not considered to be of particular relevance
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Date of the actual completion of the international search

13 July 1998

Date of mailing of the international search report

24/07/1998

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Van der Poel, W

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/08074

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 037 619 A (ALAGY JACQUES ET AL) 6 August 1991 see column 2, line 38 - column 3, line 11 see column 5, line 60 - line 65 see column 6, line 1 - line 10 see column 8, line 60 - column 9, line 27 ---</p>	1,21
A	<p>US 5 492 649 A (CHRISTENSEN THOMAS S) 20 February 1996 cited in the application see the whole document ---</p>	1,21
A	<p>US 3 881 701 A (SCHOENMAN LEONARD ET AL) 6 May 1975 cited in the application see the whole document -----</p>	1,21

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 98/08074

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0303439 A	15-02-1989	US 4865820 A	12-09-1989
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		ZA 9409796 A	18-08-1995
US 3881701 A	06-05-1975	NONE	

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/EP 98/00141

A. CLASSIFICATION OF SUBJECT MATTER IPC 6 B01F15/00 B01J8/02 C01B3/38		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 6 B01F B01J C01B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 22 03 648 A (SHELL INT RESEARCH) 10 August 1972 see figures 1,2 ---	1-10
A	DE 21 15 978 A (SHELL INT RESEARCH) 21 October 1971 see figures 1-3 ---	1-10
A	EP 0 656 317 A (SHELL INT RESEARCH) 7 June 1995 cited in the application see claims 1-9; example 1 ---	1-10
A	EP 0 254 395 A (ICI PLC) 27 January 1988 see figure 6 --- -/--	1-10
<div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex. </div>		
* Special categories of cited documents : <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">6 May 1998</div>		Date of mailing of the international search report <div style="text-align: center; font-weight: bold;">14/05/1998</div>
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer <div style="text-align: center; font-weight: bold;">Kanoldt, W</div>

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/EP 98/00141

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 112 527 A (KOBYLINSKI THADDEUS P) 12 May 1992 see figure -----	1-10

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No.

PCT/EP 98/00141

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/EP 98/00141

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		GB 2256200 A,B	02-12-92
		MX 9201509 A	01-10-92
<hr/>			

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 15 May 2001 (15.05.01)	
International application No. PCT/EP00/08727	Applicant's or agent's file reference TS 0396 PCT
International filing date (day/month/year) 05 September 2000 (05.09.00)	Priority date (day/month/year) 06 September 1999 (06.09.99)
Applicant WENTINCK, Hendrik, Martinus	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 29 March 2001 (29.03.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Catherine Massetti Telephone No.: (41-22) 338.83.38
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